

Notice of Allowability

Application No.

10/633,622

Examiner

Jordan M. Schwartz

Applicant(s)

TAKATO, HIDEYASU

Art Unit

2873

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to interview of 8/5/04.
2. ☒ The allowed claim(s) is/are 2-14.
3. ☒ The drawings filed on 05 August 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date 8/5/03
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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Allowed Claims: 2-14.

Examiner's Amendment/Reasons for Allowance/Examiner's Comments

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Henry J. Daley on August 5, 2004.

The application has been amended as follows:

Claim 1. Canceled.

Claim 2. (currently amended) A zoom lens comprising, in order from an object side:

- a first lens unit with positive power;
- a second lens unit with positive power;
- a third lens unit with negative power;
- a fourth lens unit with positive power; and
- a fifth lens unit with positive power,

wherein when a magnification of the zoom lens is varied, extending from a wide angle position to a telephoto position, the first lens unit is moved and ~~spacings between individual lens units are changed~~ a spacing between the first lens unit

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and the second lens unit, a spacing between the second lens unit and the third lens unit, a spacing between the third lens unit and the fourth lens unit, and a spacing between the fourth lens unit and the fifth lens unit are changed.

Claim 3. (currently amended) A zoom lens ~~according to claim 1,~~
comprising, in order from an object side:

a first lens unit with positive power;

a second lens unit with positive power; and

a third lens unit with negative power,

wherein when a magnification of the zoom lens is varied, extending from a wide angle position to a telephoto position, spacings between the first lens unit and the second lens unit and between the second lens unit and the third lens unit become wider at the telephoto position than at the wide-angle position, and the third lens unit remains fixed, wherein the zoom lens comprises, in order from the object side, a first lens unit with positive power; a second lens unit with positive power; a third lens unit with negative power; a fourth lens unit with positive power; and a fifth lens unit with positive power, and when the magnification of the zoom lens is varied, extending from a wide-angle position to a telephoto position, ~~spacings between individual lens units are changed,~~ a spacing between the first lens unit and the second lens unit, a spacing between the second lens unit and the third lens unit, a spacing between the third lens unit and the fourth lens unit, and a spacing between the fourth lens unit and the fifth lens unit are changed.

Claim 4. (currently amended) A zoom lens according to claim 1 or 2, wherein the second lens unit is moved toward the object side to thereby perform focusing.

Claim 5. (previously presented) A zoom lens according to claim 2 or 3, satisfying the following conditions:

$$0.1 < f_4/f_t < 0.4$$

$$1.5 < f_5/f_w < 2.5$$

where f_4 is a focal length of the fourth lens unit, f_5 is a focal length of the fifth lens unit, f_w is a focal length of an entire system at the wide-angle position, and f_t is a focal length of the entire system at the telephoto position.

Claim 6. (currently amended) A zoom lens according to claim 1 or 2, satisfying the following condition:

$$3 < f_1/f_w < 5$$

where f_1 is a focal length of the first lens unit and f_w is a focal length of an entire system at the wide-angle position.

Claim 7. (currently amended) A zoom lens according to claim 1 or 2, satisfying the following condition:

$$2 < f_2/f_w < 3.5$$

where f_2 is a focal length of the second lens unit and f_w is a focal length of an entire system at the wide-angle position.

Claim 8. (currently amended) A zoom lens according to claim ~~1~~ or 2, satisfying the following condition:

$$-0.16 < f_3/f_t < -0.08$$

where f_3 is a focal length of the third lens unit and f_t is a focal length of an entire system at the telephoto position.

Claim 9. (currently amended) A zoom lens according to claim ~~1~~ or 2, satisfying the following condition:

$$2.0 < F < 4.0$$

where F is an F-number.

Claim 10. (currently amended) A zoom lens according to claim ~~1~~ or 2, satisfying the following condition:

$$-0.35 \leq MG \leq -0.15$$

where MG is a maximum magnification for photography.

Claim 11. (currently amended) A zoom lens according to claim ~~1~~ or 2, satisfying the following condition:

$$0.08 < \Delta d / f_t < 0.12$$

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where Δd is an amount of movement in focusing extending from infinity to a nearest object point and f_t is a focal length of an entire system at the telephoto position.

Claim 12. (currently amended) A zoom lens according to claim 4-~~or~~ 2, satisfying the following conditions:

$$10 < IH < 13$$

$$2.8 < f_b/IH < 3.8$$

where IH is a radius of an image circle and f_b is a distance from a last lens surface to an image plane at the wide-angle position.

Claim 13. (currently amended) A zoom lens according to claim 4-~~or~~ 2, satisfying the following condition:

$$0 < IEWI < 15$$

where EW is an angle ($^{\circ}$) in degrees made by the most off-axis chief ray (~~a diagonal chief ray~~) on a diagonal line or a diagonal chief ray with an optical axis.

Claim 14. (currently amended) A zoom lens according to claim 4-~~or~~ 2, wherein a camera body and a lens-mountable and removable mount are provided.

Claim 15. Canceled.

Claim 16. Canceled.

Reasons for Allowance

The following is an examiner's statement of reasons for allowance: none of the prior art either alone or in combination disclose or teach of the claimed combination of limitations to warrant a rejection under 35 USC 102 or 103. Specifically, with respect to independent claim 2, none of the prior art either alone or in combination disclose or teach of the claimed zoom lens system having the specific structure as claimed, and specifically including, as the distinguishing feature in combination with the other limitations, the claimed first lens unit as movable with the spacings between lens units changing as claimed. Specifically, with respect to independent claim 3, none of the prior art either alone or in combination disclose or teach of the claimed zoom lens system having the specific structure as claimed, and specifically including, as the distinguishing feature in combination with the other limitations, the claimed third lens unit as fixed with the spacings between lens units changing as claimed.

Examiner's Comments

Applicant's election of Group II in the reply filed on May 21, 2004 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)). Regardless, applicant authorized the cancellation of the non-elected claims and the changes set forth in the examiner's amendment above.

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Sanson et al, Yahagi, and Laurent are being cited herein to show zoom lens systems having some similar structure to that of the claimed invention.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jordan M. Schwartz whose telephone number is (571) 272-2337. The examiner can normally be reached on Monday to Friday (8:00-5:30), alternate Fridays off.

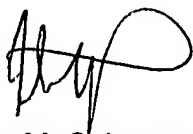
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached at (571) 272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, appearing to read 'J. Schwartz', with a large, stylized loop at the end.

Jordan M. Schwartz

Primary Examiner

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August 5, 2004